AMENDMENTS TO THE CLAIMS

The following Amendment is presented in accordance with 37 CFR § 1.121 (as revised):

11. **(Currently Amended)** A method of provoking light scattering sufficient to illuminate a specimen in an optical microscope system, said system comprising a ~~visible-light~~ microscope having a darkfield condenser, at least one objective lens, and a compound relay lens, said method comprising:

illuminating a **first** lamp that emits a first light, wherein said first light travels at a **first** frequency in the ultraviolet range of the electromagnetic spectrum;

illuminating a second lamp that emits a second light, wherein said second light travels at a second frequency;

~~**focusing said first light upon said specimen using said darkfield condenser; and**~~

~~**magnifying the image of said specimen using said compound relay lens.**~~

combining said first light and said second light to produce a combined light, said combined light comprising an additive light wave traveling at an additive frequency and a subtractive light wave traveling at a subtractive frequency;

condensing said combined light through said darkfield condenser; and

focusing said combined light on said specimen.

12. **(Currently Amended)** The method of claim 11, further comprising:

adapting said ~~**ultraviolet**~~ **first** light for use in said microscope **system** by positioning an adapter between said **first** lamp and said darkfield condenser.

13. **(Original)** The method of claim 11, wherein said specimen is placed upon a slide and is covered by a cover glass, said method further comprising:

placing a lower oil drop on the underside center of said slide;

positioning said slide on the center of said darkfield condenser;

placing an upper oil drop on the top center of said cover glass;

raising said darkfield condenser until said upper oil drop contacts said objective lens.

23. **(Currently Amended)** A system for producing a first light wave traveling at a first frequency and a second light wave traveling at a second frequency from a single light source emitting an unrefined light wave, said system comprising:

a dual-channel filter configured to receive said unrefined light wave;

a dual-frequency filter controller connected to said dual-channel filter and configured to send a primary **control signal** and a secondary control signal to said dual-channel filter,

said dual-channel filter configured to broadcast said first light wave on a first channel in response to said primary control signal and, in an alternating fashion, to broadcast said second light wave on a second channel in response to said secondary control signal.

24. **(Original)** The system of claim 23, wherein said primary control signal produces a first acoustic wave within said dual-channel filter, said first acoustic wave interacting with said unrefined light wave to produce said first light wave at said first frequency.

25. **(Original)** The system of claim 23, wherein said secondary control signal produces a second acoustic wave within said dual-channel filter, said second acoustic wave interacting with said unrefined light wave to produce said second light wave at said second frequency.

26. **(Original)** The system of claim 23, wherein said dual-frequency filter controller comprises:

a primary radio frequency synthesizer;

a secondary radio frequency synthesizer; and

a driver connecting both of said primary and secondary radio frequency synthesizers to said dual-channel filter,

said primary radio frequency synthesizer configured to synthesize and send a primary control signal via said driver to said dual-channel filter,

said secondary radio frequency synthesizer configured to synthesize and send a secondary control signal via said driver to said dual-channel filter.

45. **(New)** The system of claim 23, further comprising:

an optical combiner positioned to receive and combine said first and second light waves into a combined light, said combined light comprising an additive light wave traveling at an additive frequency and a subtractive light wave traveling at a subtractive frequency; and

a darkfield condenser positioned to receive said combined light and focus said combined light upon said specimen such that said additive and subtractive light waves provoke scattered light.

46. **(New)** The system of claim 45, wherein said optical combiner comprises:

a casing defining an inner chamber, said casing comprising a plurality of input ports and an output port; and

a prism assembly positioned within said chamber, said prism assembly configured to receive said first and second light waves entering through any two of said plurality of input ports, respectively,

said prism assembly further configured to combine said first and second light waves into said combined light wave, and to project said combined light wave through said output port.

47. **(New)** The system of claim 46, wherein said optical combiner further comprises:

a beam expander connected to a first input port designated for light waves emitted by a laser, said beam expander configured to focus and collimate said light waves, said beam expander positioned between said first input port and said prism assembly.

48. **(New)** The system of claim 46, wherein said optical combiner is configured to receive a laser beam through a first input port and an ultraviolet light wave through a second input port, said combiner further comprising:

a beam expander positioned between said first input port and said prism, said beam expander configured to focus and collimate said laser beam.

49. **(New)** The system of claim 46, wherein said prism assembly is further configured to receive a single light wave entering through any one of said plurality of input ports, and project said single light wave through said output port.